CENTRAL VALLEY FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

Central Valley Flood Protection Plan

Final Summary
Community Applications Workshop
Integration

August 26, 2010, 9:00 a.m. – 3:00 p.m.
MWH
3321 Power Inn Road Suite 300, Sacramento, CA

Participants:

Name	Organization
Jim Giottonini	San Joaquin Area Flood Control Association (SJAFCA)
Ronald Stork	Friends of the River
John Shelton	California Department of Fish and Game (DFG)
Kip Young*	DWR
Mike Hendrick	NMFS
Joe Bartlett	DWR
Jim Eto	DWR
Cait Plantaric	DWR
Dave Shpak	City of West Sacramento
Stefan Lorenzato	YCFSWCP
Gregg Werner	TNC
Kelly Briggs*	DWR
Katina Conn	San Joaquin County
Justin Fredrickson	CA Farm Bureau Federation
Abdul Khan	DWR
Nekane Hollister*	DWR
Susan Tatayon	TNC
Jane Wagner Tyack	Restore the Delta
Eugene Massa Jr.	CBDD
Terri Gaines*	DWR
Tom Karvonen	USACE
Brit Snipes	City of Rancho Cordova
Terri Wegener*	DWR
Jim Sandner	USACE
Gena Lasko	DFG
Helen Swargerty	River Partners
Earl Nelson	DWR
Lisa Beutler *	CCP
Katie Cox*	CCP
Paul Massera *	DWR
Hoa Ly	DWR
Miki Fujitsubo	USACE
Gary Estes	CA Extreme Precipitation Symposium
James Cornelius	Sutter County RCD
Ray McDowell*	DWR
Sean Sou*	DWR
Jeff Schuette	DWR
Scott Woodland*	DWR
Doug Weinrich	USFWS
Lewis Bair	RDCF
Meredith Parkin*	MWH
Marill Jacobson	DWR

Roger Putty*	MWH
Kari Shively *	MWH
Michele Ng*	DWR
Marc Hoshovsky*	DWR

* Workshop team

This summary only includes comments made during the workshop. For more information on the workshop or to view written comments submitted outside the workshop, please visit http://www.water.ca.gov/cvfmp.

Opening Comments and Summary Explanation

Integration Management Application Workshop participants met to discuss categories and subcategories of Management Actions (MAs) under development for the Central Valley Flood Protection Plan (CVFPP), with a focus on how environmental, water supply, and other benefits can be integrated into these MAs. The following summary outlines comments made on each MA category/subcategory and divides each into five sections: compatibilities, conditions that would support integration, implementation challenges associated with integration, ways to alleviate those challenges, and general comments. If a particular section does not appear for a category, participants did not provide specific input in this area.

Comments on the Applicability of MA Categories and Subcategories to Small Communities

Additional Floodplain and Reservoir Storage: Floodplain Storage

Opportunity for Strategic Integration

- Consider recreation and fishing.
- Consider adding increased roughness due to vegetation slowing flood waters.
- Opportunity for creating reservoir operations

Conditions Needed for Success/Maximizing Benefits of Strategic Integration

- Storing flood waters for slower release to floodplain overtime
- Setback levees.
- Landowner willingness
- Coordination with upstream reservoir operations

Implementation Challenges to Integration

- Limited capacity within levees
- Dry river beds
- Established overflow sites
- Most water is already spoken for (water rights)
- Unregulated flooding, beyond bank
- Infrastructure in the way
- Damage to infrastructure in the floodplain

- Challenges involving the land between the floodplains and how you can utilize existing structures and not cause erosion
- Quality of water pumped out of flooded areas (toxics/fertilizers)
- There was concern that the best soils (for agricultural purposes) are those close to river, and setback levees or floodplain storage may impact highly productive agricultural lands
- Landowner resistance
- Is it possible to release water in a way that works for the system as a whole

Ways to Overcome Challenges and/or Maximize Benefits of Strategic Integration

- Increase sources of flood water
- More frequent flooding
- Construct inlet/outlet features
- Use existing channels to slow flood (reduce erosion)
- Financial incentives for land owners
- Education/Success stories
- Geomorphic analysis to identify potential areas
- Pilot studies to determine how to best utilize floodplain storage and have multiple benefits in different locations
- Coordination with upstream basins - setting back levees and taking agricultural lands out of production
- Geomorphic analysis- needed to describe conditions, determine feasibility
- Common understanding - get everyone on the same page

Additional Floodplain and Reservoir Storage: Reservoir storage

Opportunity for Strategic Integration

- Conjunctive use
- It was suggested that under “increase cold-water for fisheries management” to add riparian management
- There could be indirect opportunities for:
    - Improving fish habitat
    - Flexibility of water supply
    - A longer recreation season for boaters
    - Watershed storage (ponds, meadows)

Conditions Needed for Success/Maximizing Benefits of Strategic Integration

- Land available for new storage (private property, tribal lands)
- MA 67: Forecast-based operations
- Water supply linkage: there needs to be a frame of reference to be able to discuss this (location, needs, etc)
- Need to determine what the overall conveyance capacity needs to be
- Decide on residual risk
- Water supply is dependent on rainfall; may not be feasible (in terms of costs and benefits) if your primary reason is flood control

Implementation Challenges to Integration

- Water Rights
- Funding for new storage
- Need to determine the conveyance and storage capacity needs overall in system
- Dependence on rainfall and seasonality
- Changes in existing storage vs. plans for reoperation (climate change, snowpack)
- Some locations might be on tribal land

Ways to Overcome Challenges and/or Maximize Benefits of Strategic Integration

- Changed spillway design
- Cost-sharing
- Multi-benefit projects (not just flood damage reduction)

Storage Operations

Opportunity for Strategic Integration

- Increase seasonal recreation opportunities
- Meadow storage

Conditions Needed for Success/Maximizing Benefits of Strategic Integration

- Frequently activated floodplain needed for ecosystem benefits, combined with floodplain management
- Floodplains need to be designed to be functional
    - Timing, velocity and duration of flows needs to be considered

Implementation Challenges to Integration

- Lack of good analytical tools to identify alternatives
- Conflicts with hydrologic and water supply needs
- Difficult to optimize multiple needs
- Hydropower production
- Water supply effects during the dry season
- Water temperature changes that put fish at risk
- Increase downstream durability/reliability to accommodate flow changes
- Clearer objectives and better understanding of needs
- Clear definitions (reoperation, objective release, etc)
- Make the existing system more durable downstream
- Increasing storage capacity for flood impacts water supply

Flood Protection System Modification: Reduce Physical Flow Constrictions

Opportunity for Strategic Integration

- Fish passage
- Expanded capacity provides more flexibility for water supply management
- Increased recreation

- Operation and maintenance (O&M) cost reduction by removing physical constraints
- Sediment reuse
- Vegetation reuse
- Elimination of invasive species
- Water quality benefits
- Potential for synergistic O&M upgrades
- Vegetation management and coordination
- Increase in safety - less people likely to recreationally jump off of bridges

Conditions Needed for Success/Maximizing Benefits of Strategic Integration

- Expanded floodway capacity (setback levees)
- Coordination needed with:
    - Local land owners
    - Reclamation Districts
    - People with local knowledge
- Integration with emergency planning (evacuation)

Implementation Challenges to Integration

- Downstream impacts to flood management
- Moving/fixing railroads and bridges
- The habitat impacts of removing vegetation
- Removal of private levees beyond SPFC (upstream)
- Constraints due to urban development
- High costs of moving levees in order to widen floodway
- Constrictions as a result of levees that are neither federal nor State owned
- Removing all flow constrictions may negatively impact habitat, floodplain function, and/or recreation
- All but one of the Management Actions are considering increasing capacity

Ways to Overcome Challenges and/or Maximize Benefits of Strategic Integration

- Begin downstream and move up (if you expand the floodway in some sections but there isn't the capacity downstream, nothing has been solved)

Flood Protection System Modification: Bypasses

Opportunity for Strategic Integration

- Increased reservoir operation flexibility, system capacity
- Can permit increased roughness in river channels (vegetation)
- Recreation - hunting/wildlife
- Facilitates reservoir reoperation
- Allows wider channel that can accommodate greater roughness (vegetation)
- Fish passage / screening

Conditions Needed for Success/Maximizing Benefits of Strategic Integration

- No specific conditions identified, but some from previous management action subcategories also apply to bypasses

Implementation Challenges to Integration

- Land acquisition

Ways to Overcome Challenges and/or Maximize Benefits of Strategic Integration

- Incentives for landowners

Flood Protection System Modification: Existing Levees (Raise, restore, or improve)

Opportunity for Strategic Integration

- Lower O&M needs/costs Decreased invasive / nonnative species
- Decommission levees and look at potential wildlife benefits

Conditions Needed for Success/Maximizing Benefits of Strategic Integration

- Need to determine how to design vegetation on levees to reduce O&M costs

Implementation Challenges to Integration

- Identification of proper maintenance authorities
- Distinguish between Federal, State and other levees
- It is sometimes difficult to raise levees in urban areas because of existing infrastructure on top of levees (highways, etc.) or at the base of levees
- With higher levees and water surfaces the risks/consequences of failure may be greater
- Higher levees may encourage more development/infrastructure behind the levee, which may increase risk
- Increased potential for seepage
- Vegetation

Ways to Overcome Challenges and/or Maximize Benefits of Strategic Integration

- Local and state fundraising

General Comments

- By increasing flood protection you can increase flood risk. More building means more infrastructures that can be destroyed.

Flood System Protection Modification: Setback levees and new levees

Opportunity for Strategic Integration

- Reduced or lowered O&M cost
- Increased recreation
- May enable meeting U.S. Army Corps of Engineers (USACE) standards for vegetation on levees
- Increased area for native riparian habitat
- Ecosystem- habitat could be self-sustaining

- Lowered flood risk
- Increased downstream channel capacity
- Mitigation of the effects of climate change
- Setback levees can integrate habitat / wildlife

Conditions Needed for Success/Maximizing Benefits of Strategic Integration

- No specific conditions identified

Implementation Challenges to Integration

- Downstream effects on flows
- It is difficult to do over a large area because of cost
- Large portions of the Sacramento River are perched (above the elevation of the adjacent floodplains); a setback levee would need to be a larger/taller levee
- Agricultural landowners do not want to lose land that is in production
- It is difficult to fund

Ways to Overcome Challenges and/or Maximize Benefits of Strategic Integration

- Start downstream
- Look at a long term view to implement
- Benefits willing landowners
- Levees need to be designed/planned considering geomorphic conditions
- Need stakeholder buy-in
- More money would be available if a longer implementation period (50-75 years) were considered

Flood Protection System Modification: Ring Levees

Opportunity for Strategic Integration

- Protecting key agricultural processing facilities
- Improved water quality by protecting wastewater/sewage facilities from flooding
- Protecting fertilizer storage areas
- Reduced urban/small community runoff
- Protecting agricultural areas and habitat outside of ring levee from development
- Land use planning
- Could be broader than cross levees or training levees
- Integration with emergency response planning
    - Ring levees could act as safety areas for equipment, livestock, people, etc.

Conditions Needed for Success/Maximizing Benefits of Strategic Integration

- Concentrated development, infrastructure, or other facilities

Implementation Challenges to Integration

- Cultural resources impacts
- Transportation into the area protected by the ring levee during flooding

- Ring levee defines boundaries for the small community/town and may restrict future community development opportunities
- Defining the extent of the area protected by the ring levee may be difficult
- Effects on conveyance and storage
- Equity - who gets in the ring?
- Promotes infill (could be either positive or negative)
- Loss of conveyance and storage

Operation and Maintenance: Dredging

Opportunity for Strategic Integration

- Re-use of sediment for fish habitat
- May reduce O&M cost for levees and other features
- Water supply integration opportunities
- Improve ecosystem, ecosystem functions
- Maximize commercial re-use

Conditions Needed for Success/Maximizing Benefits of Strategic Integration

- Timing of dredging needs to be considered (impacts to habitat, water quality, flood operations, other maintenance activities)

Implementation Challenges to Integration

- It can be costly to move dredged materials, particularly if disposal or re-use areas are not nearby
- Timing of both the dredging and the movement/redeposit of materials
- Materials must be of correct quality for specific end uses (grain size, amounts, etc.)
- Loss of fish habitat from dredging – problems with endangered species act
- Negative downstream/upstream effects on sediment transportation/deposition

Ways to Overcome Challenges and/or Maximize Benefits of Strategic Integration

- Integrated planning can reduce the need for dredging (reduce sources of sediment/material)
- Identify
    - Upstream sources
    - Critical dredging in needed areas
    - Sites that can use dredged materials
    - Geomorphic conditions (dynamic modeling)

General Comments

- The subcategory should be called “maintain channel capacity”- dredging is one option for that.
- Dredging can also contribute to channel navigation
- Removal of sediment/material in reservoirs can increase storage
- Actions need to have justifications, “why” would it be done, would it help or hinder water quality, etc.

- There were different perspectives on what was considered a benefit; it was suggested that "potential benefit" it was more appropriate

Operation and Maintenance: Vegetation Management

Opportunity for Strategic Integration

- Water supply : healthy vegetation can leave more water available for other uses
- Agricultural activities could be adjusted to help manage vegetation in different ways (invasive species, flow restrictions, etc.)
- Use vegetation to stabilize dry levees and channel bottoms
- Lower O&M repair costs
- Can increase floodway capacity
- Keeps sediment out of the main channels of the flood control system
- Fire suppression, particularly forest and rangeland management
- Integration with regional habitat management efforts
- Defining and building vegetation into channel roughness (as a system design parameter)

Conditions Needed for Success/Maximizing Benefits of Strategic Integration

- Match plant palettes to flood management and ecological needs
- Better agreement between USACE and others

Implementation Challenges to Integration

- Lack of trust and time required to document agreements, mitigation requirements, etc.
- Outdated science
- Distribution of recent science to agency staff
- Lack of clear objectives for vegetation management (locally, regionally)
- Conflicts between federal laws (willows are considered acceptable vegetation) and USACE policies regarding vegetation on levees
- Funding
- Invasive species

Ways to Overcome Challenges and/or Maximize Benefits of Strategic Integration

- Better vegetation management at the watershed level
    - Collaboration with California Department of Forestry, U.S. Fish and Wildlife Service on fire management
- Education
- Science
- Conservation Reserve Program
- Policy regulation and review
- SERP approaches
- Corridor and system planning and management of mosaic of habitats
- Build in designed roughness when planning

General Comments

- There was concern that the category was too broad and needed more specificity

Operation and Maintenance: Bank Stabilization

Opportunity for Strategic Integration

- Reduced saltwater intrusion in the Delta
- Increased water supply reliability

Conditions Needed for Success/Maximizing Benefits of Strategic Integration

- No specific conditions identified

Implementation Challenges to Integration

- Alternatives to rock/riprap can be risky
- Need ways make repairs if alternatives don't work
- Redirected downstream effects, effects on adjacent levees
- No room for alternatives to rock in some locations – channels are too close to river Riprap
- Riprap is destructive to riparian areas / recruitment
- Obtaining an insurance policy – if they are mandatory
- Consider adjacent non-project levees

Ways to Overcome Challenges and/or Maximize Benefits of Strategic Integration

- Geomorphic analysis can help determine where natural bank stabilizers are needed/appropriate
- Education
- Working with landowners for better outcomes from bank stabilization efforts

General Comments

- It was suggested that "levee stabilization" be specified and separated from "bank stabilization"
    - Levees need to be stabilized, but for river/stream banks the general idea is to do as little as possible throughout the system

Floodplain Management: Flood proofing

Opportunity for Strategic Integration

- Water supply benefits

Conditions Needed for Success/Maximizing Benefits of Strategic Integration

- Physical adjustment or raising of existing infrastructure
- It is an application for specific needs: rural areas with isolated buildings, hospitals, etc.

Implementation Challenges to Integration

- No specific challenges identified

Ways to Overcome Challenges and/or Maximize Benefits of Strategic Integration

- Link to City Planning efforts

Floodplain Management: Other non-physical actions (education, insurance, etc)

Opportunity for Strategic Integration

- Education - less risk to levees by landowner actions
- Education - better understanding of beneficial floodplain functions

Conditions Needed for Success/Maximizing Benefits of Strategic Integration

- No specific conditions identified

Implementation Challenges to Integration

- No specific challenges identified

Ways to Overcome Challenges and/or Maximize Benefits of Strategic Integration

- Improve flexibility of insurance to allow opportunities to achieve other benefits
- Basin Management Plans
- Integrated Regional Water Management (IRWM) plans

Disaster Preparedness and Flood Warning

Opportunity for Strategic Integration

- None identified

Conditions Needed for Success/Maximizing Benefits of Strategic Integration

- None identified

Implementation Challenges to Integration

- Non identified

Ways to Overcome Challenges and/or Maximize Benefits of Strategic Integration

- None identified

Flood Fighting, Emergency Response and Flood Recovery

Opportunity for Strategic Integration

- Increased water quality
- Protection of habitat

Conditions Needed for Success/Maximizing Benefits of Strategic Integration

- None identified

Implementation Challenges to Integration

- None identified

Ways to Overcome Challenges and/or Maximize Benefits of Strategic Integration

- Identify restoration opportunities in flood risk areas and incorporate into flood recovery planning
- Use flood crews for restoration while waiting for flood work

Ecosystem Restoration

Opportunity for Strategic Integration

-

Conditions Needed for Success/Maximizing Benefits of Strategic Integration

-

Implementation Challenges to Integration

- Define specific processes to maintain/improve by reach
- Objectives and charge rates for habitat/spp by mitigation requirements

Ways to Overcome Challenges and/or Maximize Benefits of Strategic Integration

- None identified

Permitting

Opportunity for Strategic Integration

- Clear policies for implementing Corridor Management Strategies (CMS)

Conditions Needed for Success/Maximizing Benefits of Strategic Integration

- None identified

Implementation Challenges to Integration

- Non identified

Ways to Overcome Challenges and/or Maximize Benefits of Strategic Integration

- Fund experts to conduct/support flood management permitting

Policy and Regulation

Opportunity for Strategic Integration

- None identified

Conditions Needed for Success/Maximizing Benefits of Strategic Integration

- Landowner incentives for ecologic benefits and flood management

Implementation Challenges to Integration

- Different types of landowners
- Different tools for different needs
- Improve existing policy and regulations
- Funding

Ways to Overcome Challenges and/or Maximize Benefits of Strategic Integration

- Look at existing programs that address private landowner's needs

Finance and Revenue

Opportunity for Strategic Integration

- None identified

Conditions Needed for Success/Maximizing Benefits of Strategic Integration

- None identified

Implementation Challenges to Integration

- None identified

Ways to Overcome Challenges and/or Maximize Benefits of Strategic Integration

- None identified

Final Thoughts

- It was noted that in order to move forward with the Management Actions, there needed to be a better nexus between the actions and the goals / objectives of the actions
- It was noted that integration opportunities and other considerations are highly dependent on the location and manner in which the actions are implemented
- It was suggested that a flow chart or "map" be produced
- It was noted that there would be legacy problems, where a levee might have been designed in a certain way and to work on part of it would mean working on all of it
- There was concern that the criteria would cover a multitude of benefits, it was noted that some actions or goals have more weight than others

Next Steps

Michele Ng noted that one of the next steps would be to hold another series of regional work group meetings to discuss regional applicability, after which the information gathered on Management Actions would move into and inform Phase 3 (Regional Solutions development).

Any additional comments were asked to be submitted within 2 business days.